SubGoal 4.4 Explore promising approaches for addressing construction hazards

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Issues

50,000+ construction workers employed on bridge renovations in U.S. at risk of exposure to lead-based paint during renovations.

ABLES data consistently document BLLs $\geq$ 40 µg/dl among construction workers.

Recent data suggest adverse physiological endpoints in adults with BLL >25 µg/dl.

Issues

Achieving reductions of BLLs necessitates:

- Multifaceted approach to manage lead (or other) exposures.
- Involvement/integration of multiple organizations, including labor & management.
- Incorporation of standard biological & environmental monitoring, with abatement procedures.

Solution: Incorporate lead health and safety language in contract specifications

Lead health and safety requirements:

- ✓Clearly stated
- ✓Cost is factored into bid
- ✓Owner/contractor takes responsibility

Reduce Worker BLL through Model Contract Specification program: Activities

- Critical Components
  - Independent safety & health consultant
  - Comprehensive IH program (surveillance)
  - Blood lead monitoring (surveillance)
  - Medical removal protection
  - Routine reporting & evaluation
  - Onsite competent person

Reduce Worker BLL through Model Contract Specification program: Activities

- Model Contract Specification program developed by interorganizational workgroup (1993)
- NIOSH participated on workgroup
- Demonstration Projects
  - Connecticut Road Industry Surveillance Project (CRISP)
  - Blue Water Bridge Project (Michigan)

Reduce Worker BLL through Model Contract Specification program: Activities

CRISP (1992 -1996)

- NIOSH funded: Conducted by Yale University in collaboration with CT DoT & DoHS
- Identified seriously high BLLs through ABLES
- 2000 workers on 90 bridge projects, 120 contractors
- BLLs compared from year to year and to BLLs of similar workers in other states

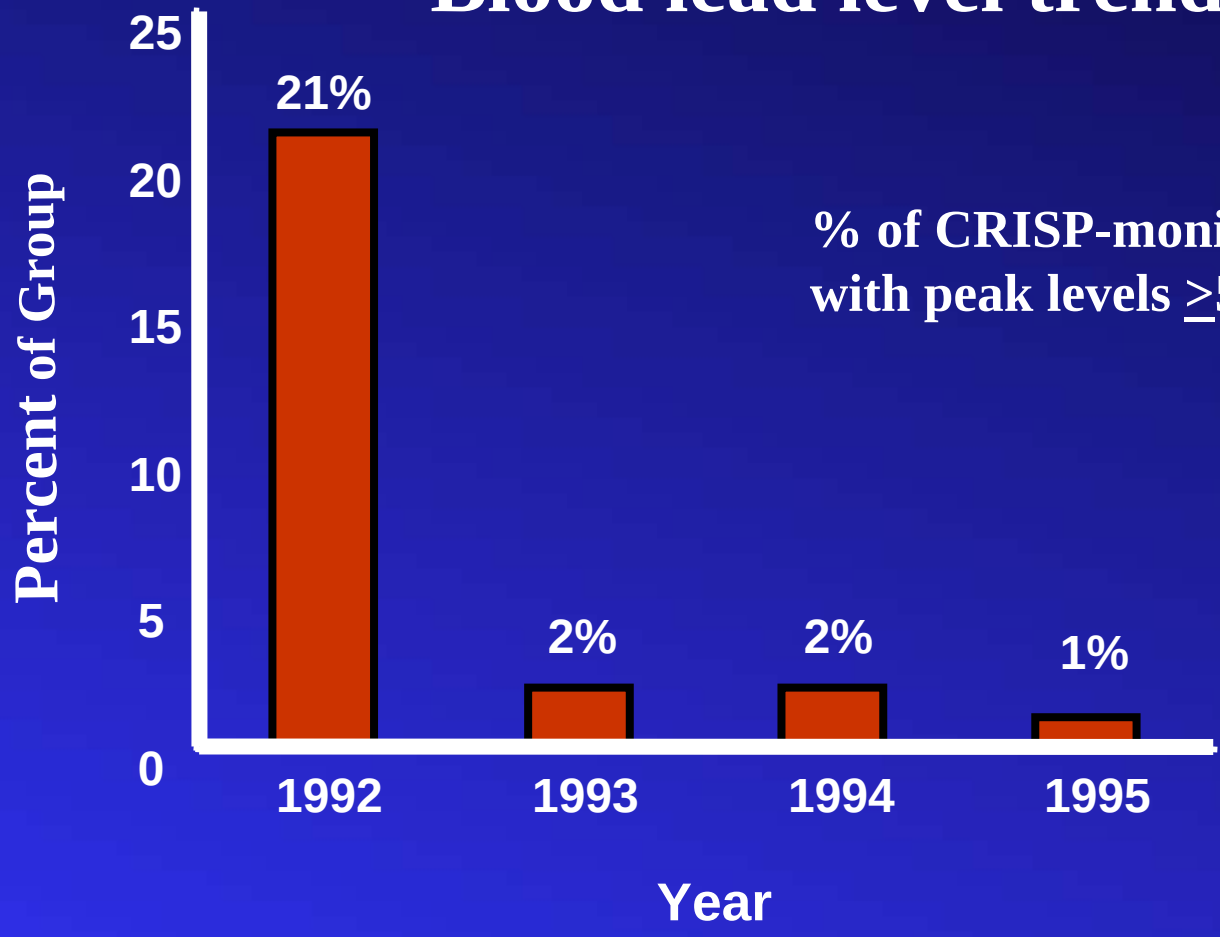
Reduce Worker BLL through Model Contract Specification program: Activities

Blue Water Bridge Project (1997 - 2002)

- NIOSH funded – cooperative agreement with CPWR; funding supplemented by Federal Highway Administration
- Replace concrete decking, steel girders, repainting
- Action Research Team: representation from principle trades, MDOT, MI OSHA, general & painting contractors, project insurance carrier & broker

Reduce Worker BLL through Model Contract Specification program : Activities - results

Blood lead level trends – CRISP



Source: Vork et al, Am J Ind Med 39:243-253, 2001

Reduce Worker BLL through Model Contract Specification program: Activities - results

- CRISP *(1992 – 1996)*

	Median Pb concentration	% ≥ 50 µg/dl
CRISP	17	1
Outside CT	34	21

Reduce Worker BLL through Model Contract Specification program: Activities - results

Blue Water Bridge Project (1997 - 2002)

- Increased awareness of lead exposure to all potentially affected parties, e.g., painters vs ironworkers
- Increased owner (MDOT) oversight
- Brought dialogue about lead to all parties
- Low BLL remained low ($\leq$ 25 µg/dl)

Reduce Worker BLL through Model Specification program: Outputs

Model Specification Workgroup

Reports & Recommendations

- *Model Specification for the Protection of Construction Workers from Lead on Steel Structures (2002)*
- Disseminated to 380 state & local Building and Construction Trades Councils; State DOTs and others
- Presented to numerous groups

Reduce Worker BLL through Model Contract Specification program: Outputs

CRISP

- Peer reviewed pubs:
  - Vork et al, AJIM, 2001
  - 2 MMWR publications

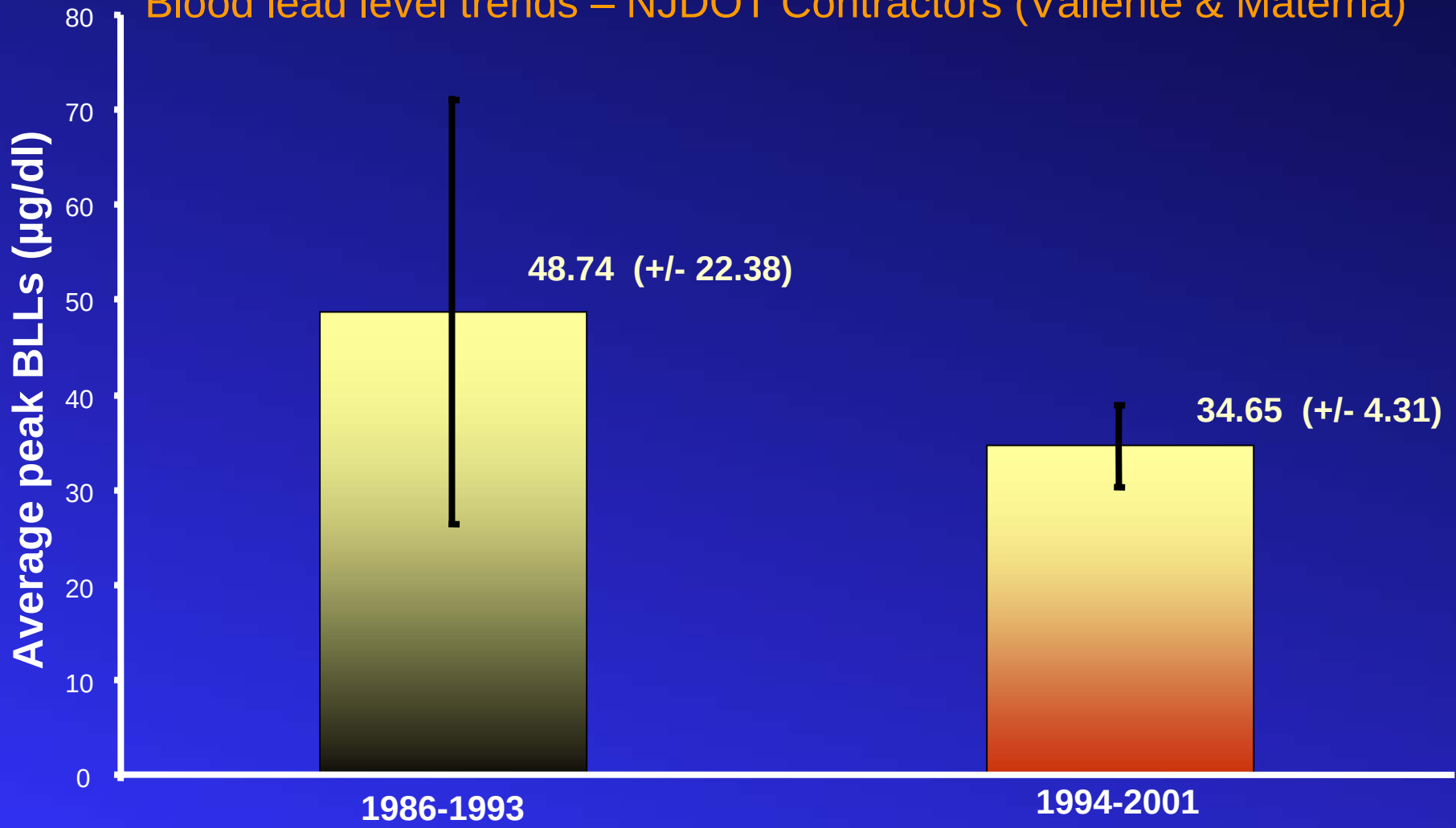
Reduce Worker BLL through Model Contract Specification program: Outputs

Blue Water Bridge

- Project and conference reports
  - Five year final project report (2004)
  - *Toward the development of an Integrated approach to worker protection during industrial lead operations (1995)*

Reduce Worker BLL through Model Contract Specification program: Intermediate Outcomes

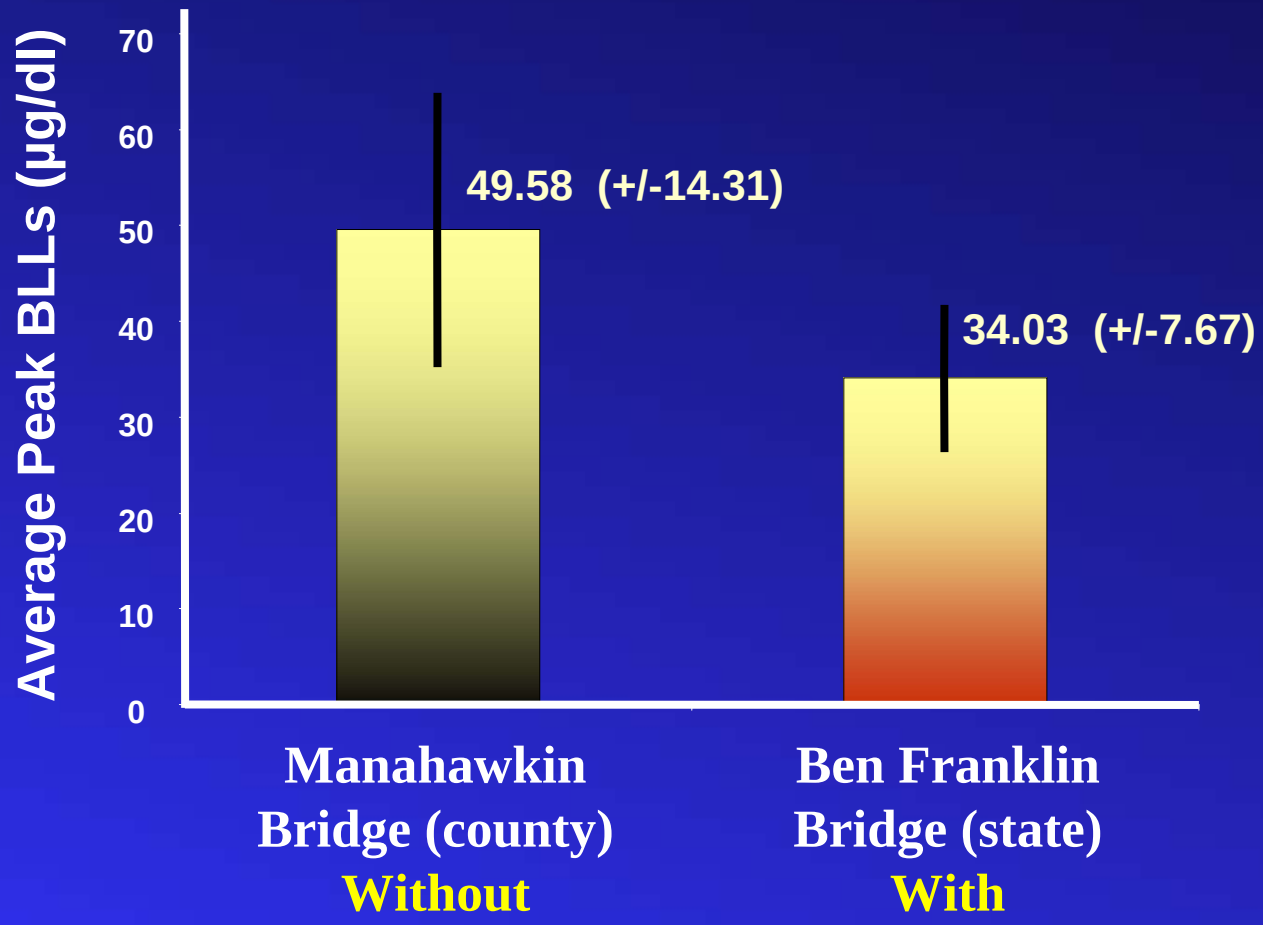
Blood lead level trends – NJDOT Contractors (Valiente & Materna)



Source: NJDHSS ABLES Lead Registry

Reduce Worker BLL through Model Contract Specification program: Intermediate Outcomes

Blood lead level trends – individual contractors (Valiente & Materna)



Source: NJHSS ABLES Lead Registry

Reduce Worker BLL through Model Contract Specification program: Intermediate Outcomes

- Model Spec Program continues in Connecticut
- Savings of $ 2.5 M in workers' compensation in CT
- Massachusetts, Missouri, Michigan, New Jersey, Maryland, Delaware and New York Departments of Transportation adopted Model Specs Lead program

Reduce Worker BLL through Model Contract Specification program: Intermediate Outcomes

- Integration of Model Contract Specification principals integrated into training journeymen and apprenticeship instructors, union reps
- Federal Highway Administration encourages Contract Specification programs for health and safety; does not fund new highway projects using lead paint

Thank you

Contact information

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